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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,945	07/16/2003	Brent A. McDonald	DC-04959	8595

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EXAMINER	
CRIBBS, MALCOLM D	

ART UNIT	PAPER NUMBER
2115	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/620,945	MCDONALD ET AL.	
	Examiner	Art Unit	
	Malcolm D. Cribbs	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-4* is/are allowed.

6)☒ Claim(s) *5-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-19 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanouda et al [US Patent No. 6,567,261] in view of O'Meara [US Patent No. 6,384,491] in further view of Bugeja [US Patent No. 6,597,299].

As per claim 5-9, Kanouda et al teach the invention comprising:

outputting power from a power supply to the microprocessor [Col 2 lines 35-39];

communicating variations in microprocessor power demand to the power supply [Col 10 lines 39-51];

adjusting power output from the power supply in response to the variations in microprocessor power demand within a predetermined response time [Col 11 lines 17-26]; and

buffering current with one or more capacitors to manage differences between power supplied by the power supply and power demanded by the microprocessor over the response time [Col 8 lines 55-63].

Kanouda et al do not teach a method of adjusting the power of the power supply based on the current of the capacitors. Specifically, Kanouda et al teach a method of a supplying a load, indicated as a processor, with power based on the demands sent therefrom. However, Kanouda et al fails to detail a method of estimating current across the capacitor to adjust the power of the power supply. A routineer in the art would have been motivated to look for a teaching for the possible method of estimating the current across the capacitor to adjust the output power.

O'Meara teaches another method of supplying power using a power supply to a load. O'Meara uses the current of the capacitor [capacitor 36], and controls the power [controlling the pulse with modulator] to fall within a certain value [Col 4 lines 56-67]. In summary, O'Meara teaches a method of adjusting the power in response to the current of the capacitors.

It would have been obvious to one of ordinary skill in the art to combine the teachings of Kanouda et al and O'Meara, which are analogous art, because they both teach a method of supplying power to a load. O'Meara's teaching of uninterruptible power being supplied to the load would improve upon the accuracy of Kanouda et al's

teaching of supplying power to a load. Therefore it would have been obvious to combine theses teachings with the added functionality of adjusting the power based on the current of the capacitor.

Kanouda et al and O'Meara do not teach a method of estimating the current of the capacitors. Specifically, O'Meara teaches a method of compensating for changes by controlling voltage based in current of capacitors within a closed loop. However, Kanouda et al and O'Meara fail to detail a method of estimating the current present in the capacitor. A routineer in the art would have been motivated to look for a teaching for the possible method of estimating the current present in the capacitor depending upon voltage.

Bageja teaches another method of compensating for changes within a power supply system. Bageja estimates the current across the capacitor in order to compensate for the changes depending on voltage [Col 2 lines 20-29]. In summary, Bageja teaches a method of compensating for changes of a power supply based on current across the capacitor.

It would have been obvious to one of ordinary skill in the art to combine the teachings of Kanouda et al and O'Meara with Bageja, which are analogous art, because they teach a method of compensating for changes within a power supply system with a buffering capacitor. Bageja's teaching of an open circuit with compensation by current

of a capacitor being typically used for closed circuits to speed up response times of feedback received improves the accuracy of Kanouda et al's closed loop system. Therefore it would have been obvious to combine these teachings with the added functionality of estimating the current of the capacitors to adjust the output voltage.

As per claims 10-17, it is directed to the system to implement the method of steps as set forth in claims 5-9. Therefore, it is rejected for the same basis as set forth hereinabove.

As per claims 18-19, it is directed to a method of steps for supplying power to implement the method as set forth in claims 5-9. Therefore, it is rejected for the same basis as set forth hereinabove.

Claims 1-4 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Malcolm D. Cribbs whose telephone number is 571-272-5689. The examiner can normally be reached on M-F 8AM-430PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Malcolm D Cribbs
Examiner
Art Unit 2115

June 9, 2006

CHUN CAO
PRIMARY EXAMINER